

46. The circuit board of Claim 45, wherein the slit is formed around a circumference of the unit board so that the unit board lay substantially flat, the base board retaining a curved shape from being wound onto or removed from a reel.

47. The printed circuit board of Claim 45, wherein the base board has a substantially curved shape due to being mounted on a reel.

REMARKS

Claims 1-9 and 21-47 are in the present application, new claims 39-47 being added by this preliminary Amendment. Reconsideration in view of the following remarks is kindly requested.

SUMMARY OF EXAMINER INTERVIEW

Initially, Applicant's representative wishes to thank Examiner Alcala and Supervisory Examiner Cuneo for their time at the interview of January 23, 2003, the contents of which are summarized below.

Prior to the Interview, Applicant's representative faxed the Examiner discussion points and the proposed claims, so as to expedite the interview process. At the interview, Applicant's representative discussed distinctions in the present application, over what is shown in FIGS. 5 and 6 of Haghiri-Tehrani '955.

Examiners Alcala and Cuneo were receptive to Applicant's representative's arguments and proposed claim language. However, Examiner Cuneo indicated that the proposed added language would require a further search. Examiner Cuneo also indicated that the phrase "reel-deployable", was unclear to her, and suggested changing the preamble in each claim to state "A printed circuit board deployed on a reel, or "mounted on a reel" or "wound on a reel", for example.

After discussing proposed claim terminology for the RCE, Examiner Alcala indicated that such amendments would likely overcome the rejections over Applicant's FIG. 6 in view of

H-T '955, but would only be entered upon filing a Rule 1.114 Request for Continuing Examination (RCE). This was also reflected in the Examiner Interview Summary Form.

Claim Rejections -35 U.S.C. §112

Claims 30-38 stand rejected under 35 U.S.C. §112, second paragraph, allegedly as being indefinite. By this Amendment, Applicant has amended claim 30 in an effort to place the claim in better form for U. S. practice, and so as to overcome the second paragraph rejection. Withdrawal of the rejection is kindly requested.

Claim Rejections-35 U.S.C. §103

Claims 1-9 and 21-38 stand rejected under 35 USC 103(a) as allegedly being unpatentable over Figure 6 of the present application in view of Haghiri-Tehrani (USP, 5,362,955), hereafter "H-T '955"). This rejection is respectfully traversed, and is inapplicable to new claims 39-47 as set forth below.

Applicant has amended claims 1, 21 and 30 consistent with the results of the interview, changing the preamble to recite "A printed circuit board mounted on a reel", or "An apparatus mounted on a reel", as suggested by the Examiner. Applicant submits that neither Fig. 6 nor H-T '955 teaches a printed circuit board (apparatus) mounted on a reel, comprising:

at least one connection bar having an axis that is oriented perpendicular to a direction of travel at which the apparatus is removed from or wound onto a reel (underlining for emphasis);

as recited in claims 1 and 21 and as somewhat similarly recited in claim 30.

In H-T '955 connection bar 30 is not disposed such that an axis of the connection bar 30 is perpendicular to a direction of movement of a printed circuit board mounted on a reel. At best, FIG. 6 of H-T '955 shows a connection board disposed such that an axis of the connection bar 30 is parallel to the travel of connected mini-cards as they are severed by a laser at 32. No reel is present in H-T '955. As seen in Applicants' FIG. 9 and 10A, connection bar 66 is disposed perpendicular to direction of travel of the reel-deployable printed circuit board 70 from a reel. Accordingly, the claimed features underlined above are not taught by the combination, as

emphasized in the interview. Withdrawal of the rejections as pertaining to claims 1 and 21, and those claims dependent thereon, is therefore kindly requested.

In addition to amending the preamble for clarity, the phrase "on a reel" has been added to claim 30 solely for reasons of clarity, so as to overcome the second paragraph rejection under 35 U.S.C. §112, and not to distinguish the references. Since neither Figure 6 nor H-T '955 teaches or suggests the orientation of the connection bar, as recited in claim 30 of the present application, the rejection as applied to claim 30, and those claims dependent thereon, should be withdrawn.

New Claims

New claims 39-47 have been added in an effort to provide further protection for Applicant's invention. Claims 39-44 further emphasize the orientation of the connection bar. Applicants submit that claims 39-44 are allowable at least for reasons set forth above regarding their corresponding independent claims, and/or for the further features claimed therein.

Independent claim 45 recites where the connection bar remains substantially flat despite a substantially curved shape of an elongated base board, as suggested in the interview. Dependent claims 46 and 47 further define that the substantially curved shape is due to the reel. Claims 45-47 are allowable since neither FIG. 6 nor H-T '955 teach or suggest where the connection bar remains substantially flat, even with the base board retaining a substantially curved shape, as was discussed in the interview.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-9 and 21-47 in connection with the present application is earnestly solicited.

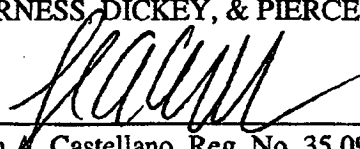
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Matthew J. Lattig at telephone number 703-668-8026.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By


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Attached: Marked-up version of amended claims

MARKED-UP VERSION OF AMENDED CLAIMS

The claims have been amended as follows:

1. (Twice Amended) A [reel-deployable] printed circuit board mounted on a reel, comprising:
 - an elongated, flexible base board having opposite edges and a slit formed into it, the slit having an inner periphery defining a unit board within the flexible base board; and[,]
 - at least [a] one connection bar having an axis that is oriented perpendicular to a direction of travel at which the printed circuit board is removed from or wound onto the reel, the connection bar connecting the unit board to the base board such that the unit board is pivotable on the connection bar relative to the base board.
21. (Amended) An apparatus mounted on a reel, comprising:
 - a flexible base board; and
 - a plurality of unit boards disposed within the flexible base board, the plurality of unit boards connected to the flexible base board by at least one connection bar having an axis that is oriented perpendicular to a direction of travel at which the apparatus is removed from or wound onto a reel, wherein each unit board is pivotable on its respective connection bar(s).
30. (Amended) A [reel-deployable] printed circuit board mounted on a reel, comprising:
 - an elongated, flexible base board having opposite edges and a slit formed into it, the slit having an inner periphery defining a unit board within the flexible base board; and
 - one or more connection bars connecting the unit board to the base board [such that the unit board is pivotable on the connection bar(s) relative to the base board], the connection bar(s) being disposed such that an axis of the connection bar(s) is perpendicular to a direction of [movement] travel of the [reel-deployable] printed circuit board on the reel.

New claims 39-47 have been added.